

### **REMARKS**

The amendments and remarks presented herein are believed to be fully responsive to the Office Action.

Claims 1-16 and 18 are pending in the present application. Claim 17 has been canceled, claim 18 has been added and claims 1-6, 12, 13, 15 and 16 have been amended. No new matter has been added. The independent claims recited by the present application are claims 1, 12 and 18.

### **CLAIM REJECTIONS:**

#### **A. Claim Rejections under 35 U.S.C. § 112**

The Office Action rejects claim 5 under 35 U.S.C. § 112, as being indefinite for failing to particularly point out and distinctly claim the subject matter because claim 5 is directed to a system, but also discloses method steps.

Applicant respectfully amends claim 5 which recites “an exposure point computing module configured for computing” a first exposure point, a second exposure point and a third exposure point. Thus, limitations of computing the exposure point recited in claim 5 are limitations for a component of the system, not the method steps.

The Office Action further rejects claims 4-5 and 16 under 35 U.S.C. § 112, as being indefinite for failing to particularly point out and distinctly claim the subject matter because the limitations upper concept and lower concept are used to limit expansion keyword are not clear.

Applicant respectfully amends the claims 4-5 and 16 to replace the terms upper concept and lower concept with the limitations of “the expansion keyword is in genus-species hierarchies

with the keyword.” A plain meaning of the limitations, “the expansion keyword is in genus-species hierarchies with the keyword,” is clear. Further, those limitations are supported by the original specification. For example, the specification of the present invention recites:

[0100] FIG. 13 is a flowchart more specifically illustrating procedures of selecting advertisement data by using the keyword in step 1004. In step 1301, a keyword, a similar keyword related thereto and an expansion keyword related thereto are maintained in a keyword database. The similar keyword is a keyword having an equivalent meaning to the keyword (e.g., in case that a keyword is `inline`, `inline` is a similar keyword), and the expansion keyword is a keyword having a meaning of a upper concept of the meaning of the keyword or a lower concept thereof (e.g., in case that a keyword is `inline`, `leisure` is an expansion keyword having a upper concept. At least one of the keyword, the similar keyword or the expansion keyword can be maintained in association with each of advertisement data. See Paragraph [0100] of the specification

As such, no new matter has been added. Further, the amended limitations also meet the written description requirement under 35 U.S.C. § 112. Therefore, the amended claims 4-5 and 16 particularly point out and distinctly claim the subject matter which applicant regards as the invention.

#### **B. Claim Rejections under 35 U.S.C. § 101**

The Office Action rejects claims 1-11 under 35 USC 101 because the claimed invention is directed to non-statutory subject matter. The Office Action notes that the claimed invention of claims 1-11 is directed to a system, but they fail to recite necessary physical articles or objects to constitute a machine or a manufacture within the meaning of 35 USC 101.

Further, with regard to claims 12-16, the Office Action notes that, based on Supreme Court precedent, a method/process claim must (1) be tied to another statutory class of invention

or (2) transform underlying subject matter (such as an article or material) to a different state or thing. The Office Action states that claim 12 fails to meet one of the above-requirements because it is not tied to a second statutory class. The Office Action further states that although the user terminal recited in claim 12 is a second statutory class of invention, here it is not sufficiently tied to the claim because it comprises merely non-functional descriptive material in the claim.

The Office Action rejects claim 17 under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The Office Action states that the computer readable record medium recording a program for ... of claim 17 is not a process, machine, manufacture, or composition of matter or any improvement thereof. The Office Action suggests replacing program with “a computer-readable program” to overcome this rejection.

Applicants respectfully traverse these rejections.

With regard to claims 1-11, however, Applicant respectfully amends claim 1 by adding limitations of hardware components, such as a processor and a memory.

Since claim 17 has been canceled, this rejection is moot. Further, the newly added claim 18 recites “One or more computer-readable media having stored thereon a computer program that, when executed by one or more processors, causes the one or more processors to perform acts including” instead of the preamble “the computer readable record medium recording a program for...” in accordance with the Examiner’s suggestions.

The Federal Circuit also supports the patentability of a claim involving computer-readable media having stored thereon a computer program. The Federal Circuit held that claims involving computer-readable media with software installed thereon are valid, patentable subject matter under 35 U.S.C. § 101. *In re Lowry*, 32 F.3d 1579, 1580 (Fed. Cir. 1994); *Eolas Technologies, Inc. v. Microsoft Corp.*, 399 F.3d 1325, 1331 (Fed. Cir. 2005); *AllVoice Computing PLC v. Nuance Communications, Inc.*, 504 F.3d 1236, 1238 (Fed. Cir. 2007); *Z4 Technologies, Inc. v. Microsoft Corp.*, 507 F.3d 1340 (Fed. Cir. 2007). The court noted that claims reciting a computer readable (or usable) medium having computer readable instructions (or code) embodied therein are patentable subject matter under 35 U.S.C. § 101 because the claimed invention imposed “physical organization” on the data and that the data stored in the memory created an “electronic structure. *In re Lowry*, 32 F.3d at 1579.

In *In re Lowry*, Claim 1 of the patent at issue recites: A memory for storing data for access by an application program being executed on a data processing system, comprising: a data structure stored in said memory, said data structure including information resident in a database used by said application program and including: a plurality of attribute data objects stored in said memory, each of said attribute data objects containing different information from said database;... The Federal Circuit found that Claim 1 is patentable under 35 U.S.C. § 101. 32 F.3d at 1581.

Further, in *Eolas Technologies, Inc.*, Claim 6 of the patent at issue recites: 6. A computer program product for use in a system having at least one client workstation and one network server coupled to said network environment, wherein said network environment is a distributed hypermedia environment, the computer program product comprising: a computer usable medium having computer readable program code physically embodied therein, said computer program product further comprising: computer readable program code for causing said client workstation.... The Federal Circuit found that Claim 6 is patentable under 35 U.S.C. § 101. 399 F.3d at 1331.

In *Eolas Technologies, Inc. v. Microsoft Corp.*, the court found that “[w]ithout question, software code alone qualifies as an invention eligible for patenting under [35 U.S.C. § 101]...software code claimed in conjunction with a physical structure, such as a disk, fits within at least those two categories [processes and manufacture] of subject matter within the broad statutory label of ‘patented invention.’” *Id.* at 1339.

In *Z4 Technologies, Inc. v. Microsoft Corp.*, Claim 32 of the patent at issue recites: 32. A computer readable storage medium having data stored therein representing software executable by a computer, the software including instructions to reduce use of the software by unauthorized users, the storage medium comprising: instructions for requiring a password associated with the software; instructions for enabling the software after the password has been communicated to the software; instructions for subsequently requiring a new password to be communicated to the software for continued operation of the software; and instructions for automatically contacting an authorized representative of the software to communicate registration information and obtaining authorization for continued operation of the software. 507 F.3d at 1345.

In *Z4 Technologies, Inc.*, Z4 Corporation sued Microsoft for patent infringement. And the jury returned a verdict of willful infringement and awarded Z4 damages. 507 F.3d at 1346. Microsoft appealed for a variety of reasons, though none alleging that the claims themselves were invalid as unpatentable subject matter under 35 U.S.C. § 101. *Id.* The court affirmed the jury verdict, thereby implicitly affirming the validity of the patent claims.

### **C. Claim Rejections under 35 U.S.C. § 102**

A claim is anticipated under 35 U.S.C. 102 only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.

Verdegaal Bros. v. Union Oil Company, 814 F.2d 628 (Fed. Cir. 1987). The identical invention

must be shown in as complete detail as is contained in the claim of the invention. Richardson v. Suzuki Motor Company, 868 F.2d 1226, 1236 (Fed. Cir. 1989). With regard to “inherency,” the fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency or characteristic. In re Rijckaert, 9 F.3d 1531, 1534, 28 U.S.P.Q.2d 1955, 1957 (Fed. Cir. 1993). To establish inherency, the extrinsic evidence must make clear that the missing descriptive matter is necessarily present in the thing described in the reference and that it would be recognized by persons of ordinary skill. Inherency, however, may be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient. In re Robertson, 169 F.3d 743, 745, 49 U.S.P.Q.2d 1949, 1950-51 (Fed. Cir. 1999). Also, a reference cannot anticipate a claim if there is any structural difference, even if the prior art device performs the function of the claim. In re Ruskin, 347 F.2d 843, 146 U.S.P.Q. 211 (CCPA 1965).

The Office Action states that claims 1-7, 9, 12-13 and 15-17 are rejected under 35 U.S.C. § 102(e) as being anticipated by Dean et al., U.S. Patent Publication No. U.S. 2004/0059708 (hereinafter “Dean et al.”). Applicants respectfully traverse these rejections.

#### Claim 1

The amended independent claim 1 recites the following limitations:

... a content database for maintaining a content identifier for identifying content provided to a user terminal through a communication network, and a category related to the content;

an advertisement data searching unit configured for searching the advertisement database for advertisement data corresponding to a category related to the content to be displayed to a user;...

Dean et al. does not disclose a content database including a category related to the content of the target page and an advertisement data searching unit configured for searching advertisement data corresponding to a category related to the content.

Nonetheless, the Office Action asserts that the above limitations recited in claim 1 are disclosed in the Dean et al. reference. See Office Action, page 5.

**Contrary to the Examiner's findings, the recitations of the present invention are not disclosed by Dean et al. since Dean et al. in no way teaches an online advertising system whose advertisement data searching unit searches advertisement database for advertisement data corresponding to a category related to the content of a target page wherein the category related to the content of the target page is stored in a content database in association with a content identifier.**

While Dean et al. analyzes the content of a target document to identify "topics" for the target document, comparing the targeting information to the list of topics to determine if a match exists, and determining that the advertisement is relevant to the target document if the match exists, the advertising system of Dean et al. does not store a category related to the content of the target page in association with the content to search for advertisement data corresponding to the category related to the content.

While the present invention stores a classification of the content, Dean et al. analyzes the content to determine the subject of the content. The "topics" of the content disclosed in the Dean et al. reference is distinct from the "category" of the content in the present application. In English usage, the current meaning of the term TOPIC includes "the subject of a discourse or of a section of a disclosure." Merriam-Webster's Collegiate Dictionary, Eleventh Edition,

(Merriam-Webster, Incorporated 2004). On the other hand, the current meaning of the term CATEGORY includes "any of several fundamental and distinct classes to which entities or concepts belong" Merriam-Webster's Collegiate Dictionary, Eleventh Edition, (Merriam-Webster, Incorporated 2004). The meaning of the term TOPIC is also supported by the Dean et al. reference. For example, paragraphs [0047] and [0050] of Dean et al. recites:

[0047] One way to identify a topic corresponding to the target document is by analyzing some or all text within the target document, which shall be illustrated in reference to FIG. 5. FIG. 5 shows a sample document, entitled "Travels in Italy", which contains a collection of travel-related information pertaining to Italy. The document text contains the term "restaurant" (appearing 20 times), "chianti" (appearing 10 times), and "the" (appearing 100 times). It could be determined that one or more of each term (word or phrase) that appears in the title of the target document corresponds to a topic of the target document. On this basis, the topics for this document may be "travels", "in", and/or "italy."

[0051] Alternatively, or in addition to using text or other information within the target document, meta-information associated with the target document may be used. For example, a reference to the target document by another document may contain a brief description of the target document. Assume a document called "Entertainment" that contains a reference to the target document and describes it as "For a description of restaurants and wine in Italy, see `Travels in Italy`." In the context of a web page, this is often described as anchor text. One or more such brief descriptions may be used to revise (figuratively) the target document by supplementing or replacing some or all of its content with the brief descriptions. So, for example, the topic could be identified from the combination of the target document's title and the brief descriptions of the target document.

Further, Dean et al. does not teach or suggest storing the topics in association with the content, whereas a content database of the present invention includes a category related to the



content of the target page and an advertisement data searching unit searches advertisement data corresponding to a category related to the content.

The category related to the content of the present invention is stored in a database in association with the content identifier. While Dean et al. discloses various techniques to identify topics of the content, Dean et al. does not disclose storing topics related to the content in a database in association with the content. For example, paragraph [0044] of Dean et al. recites:

[0044] Next, the target document (i.e., the document corresponding to which a relevant advertisement is requested) is analyzed to identify a topic corresponding to that target document. (Stage 420). The target document may be stored on a database 240 or may be provided by ad consumer 130 via ad consumer interface component 250. There are numerous ways in which the target document may be analyzed to identify this topic, as described below in reference to FIG. 5 and related text.

Thus Dean et al. does not anticipate the present invention because Dean et al. does not disclose or teach limitations of (1) a content database for maintaining a category related to the content; or (2) an advertisement data searching unit configured for searching the advertisement database for advertisement data corresponding to the maintained category related to the content to be displayed to a user.

#### Claim 12

The amended independent claim 1 recites the following limitations:

... maintaining a content identifier for identifying content provided to a user terminal through a communication network and a category related to the content, in a content database;

searching the advertisement database for advertisement data corresponding to a category related to the content to be displayed to a user;...

Dean et al. does not disclose method maintaining a content identifier for identifying content provided to a user terminal through a communication network and a category related to the content, in a content database; and searching the advertisement database for advertisement data corresponding to a category related to the content to be displayed to a user.

Nonetheless, the Office Action asserts that the above limitations recited in claim 12 are disclosed in the Dean et al. reference. See Office Action, pages 10-11.

**Contrary to the Examiner's findings, the recitations of the present invention are not disclosed by Dean et al. since Dean et al. in no way teaches an online advertising method maintaining a content identifier for identifying content provided to a user terminal through a communication network and a category related to the content, in a content database; and searching the advertisement database for advertisement data corresponding to a category related to the content to be displayed to a user.**

While Dean et al. analyzes the content of a target document to identify "topics" for the target document, comparing the targeting information to the list of topics to determine if a match exists, and determining that the advertisement is relevant to the target document if the match exists, the advertising system of Dean et al. does not store a category related to the content of the target page in association with the content to search for advertisement data corresponding to the category related to the content.

While the present invention stores a classification of the content, Dean et al. analyzes the content to determine the subject of the content. The "topics" of the content disclosed in the Dean et al. reference is distinct from the "category" of the content in the present application. In English usage, the current meaning of the term TOPIC includes "the subject of a discourse or of

a section of a disclosure.” Merriam-Webster’s Collegiate Dictionary, Eleventh Edition, (Merriam-Webster, Incorporated 2004). On the other hand, the current meaning of the term CATEGORY includes “any of several fundamental and distinct classes to which entities or concepts belong” Mcrriam-Webster’s Collegiate Dictionary, Eleventh Edition, (Merriam-Webster, Incorporated 2004).

Further, Dean et al. does not teach or suggest storing the topics in association with the content, whereas a content database of the present invention includes a category related to the content of the target page and an advertisement data searching unit searches advertisement data corresponding to a category related to the content. As such, Dean et al. does not anticipate the present invention. Therefore, claim 12 is now in condition for allowance.

#### Claim 18

The Examiner rejected claim 17 which corresponds to the method claim 12. Since claim 17 has been canceled, however, the rejection thereof is moot. However, since claim 18 corresponds to claim 17, for the sake of argument, Applicant’s arguments above should be applied to claim 18.

#### Claims 2-7

The Examiner rejected Claims 2-7 which depend from Claim 1 as being anticipated by Dean et al. reference. The above remarks are equally applicable for the dependent claims 2-7. As such, claims 2-7 are clearly allowable over the cited prior art.

Claim 9

The Examiner rejected Claim 9 which depends from Claim 8 as being anticipated by Dean et al. reference while the Examiner rejected Claim 8 under 35 U.S.C. 103(a), as being unpatentable over Dean et al. Since Claim 9 incorporates all the limitations of Claim 8, the Examiner should apply 35 U.S.C. 103(a), instead of 35 U.S.C. 102(a). For the sake of argument, Applicant's arguments above should be applied to claim 9. As such, Claim 9 is clearly allowable over the cited prior art.

Claims 13 and 15-16

The Examiner rejected Claims 13 and 15-16 which depend from Claim 12 as being anticipated by Dean et al. reference. The above remarks are equally applicable for the dependent claims 13 and 15-16. As such, claims 13 and 15-16 are clearly allowable over the cited prior art.

**D. Claim Rejection under 35 U.S.C. § 103**

LEGAL PRINCIPLE - To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves, or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all claim limitations. The teaching or suggestion to make the claim combination or combine the references and the reasonable expectation of success must both be found in the prior art and not based on the Applicant's disclosure. In re Vaeck, 947 F.2d 488 (Fed. Cir. 1991).

With regard to the first criteria for a suggestion or motivation to modify or combine references, obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art. In re Kotzab, 217 F.3d 1368 (Fed. Cir. 2000). Courts and patent examiners should determine whether needs or problems known in the field and addressed by the prior art references can provide a reason for combining the elements in the manner claimed. KSR Intern. Co. v. Teleflex Inc., No. 04-1350, 2007 WL 1237837, at 4 (Apr. 30, 2007). “In formulating a rejection under 35 USC § 103(a) based upon a combination of prior art elements, it remains necessary to identify the reason why a person of ordinary skill in the art would have combined the prior art elements in the manner claimed.” Memo on KSR Decision to Examiners issued by the United States Patent and Trademark Office, May 4, 2007. The prior art is not sufficient to establish obviousness without some objective reason to combine the teachings of the references. In re Kotzab, 217 F.3d 1368 (Fed. Cir. 2000), also see In re Sang Su Lee, 277 F.3d 1338 (Fed. Cir. 2002).

The Office Action states that claims 8, 10-11 stand rejected under 35 U.S.C. 103(a), as being unpatentable over Dean et al. The Office Action further states that claim 14 stands rejected under 35 U.S.C. 103(a), as being unpatentable over Dean et al. in view of Anick et al. (US 6,778,975) (hereinafter “Anick et al.”).

Claims 8 and 10-11

The Examiner rejected Claims 8 and 10- 11 which depends from Claim 1 as being obvious over Dean et al. The above remarks for Claim 1 are equally applicable for the dependent claims 8 and 10-11. As such, claims 8 and 10-11 are clearly allowable over the cited prior art.


Claim 14

Applicants respectfully traverse these rejections because the Examiner's characterization of Dean et al. is incorrect. Dean et al. fails to disclose the limitations recited in the independent claims 1, 12 and 18 of the present application and Anick et al. still fails to remedy the deficiencies of Dean et al. in reaching all the elements and limitations of the claims of the present invention. Neither Dean et al. nor Anick et al. nor their combination disclose or teach all the elements and limitations of the claims of the present invention.

If any issue regarding the allowability of any of the pending claims in the present application could be readily resolved, or if other action could be taken to further advance this application such as an Examiner's amendment, or if the Examiner should have any questions regarding the present amendment, it is respectfully requested that the Examiner please telephone Applicant's undersigned attorney in this regard.

Respectfully submitted,

Application of: Sang Yong Bae, et al.  
Serial No.: 10/595,998  
Amendment A

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